

DOCUMENT RESUME

ED 332 561

HE 023 400

AUTHOR Ramirez, Francisco O.
TITLE Women's Participation in Higher Education: Cross-National Trends, Antecedents, and Consequences.
INSTITUTION Stanford Univ., Calif. Center for Educational Research at Stanford.
REPORT NO 89-CERAS-13
PUB DATE 88
NOTE 64p.
PUB TYPE Information Analyses (070) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Comparative Analysis; Comparative Education; Economic Development; *Equal Education; Equal Opportunities (Jobs); *Futures (of Society); Higher Education; Labor Force; Males; *Social Change; Socioeconomic Status; Trend Analysis; *Womens Education

ABSTRACT

This paper focuses cross-nationally on women's share of higher education relative to that of men. An institutional perspective is developed that leads to three predictions: (1) women's share of higher education will increase worldwide; (2) countries with relatively more women in higher education will also have relatively more women in the labor force and show a greater commitment to legal equality between the sexes; and (3) the expansion of women's share of higher education will be minimally affected by variations in internal societal factors. Table I shows that between 1955 and 1975 there was a worldwide increase in women's share of higher education. Table II summarizes prior cross-national research that shows the positive effects of women's share of higher education on other dimensions of the status of women. Table III reveals that while most societal characteristics are unrelated to the growth of women's share of higher education, economic development has a positive influence. It is noted that the interpretation of this set of findings stresses their contingency on increased national exposure to a model of development fostered by the world political culture. Contains 70 references. (Author/GLR)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED332561

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☐ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Francisco O.
Ramirez

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

89-CERAS-13

WOMEN'S PARTICIPATION IN HIGHER EDUCATION:
CROSS-NATIONAL TRENDS, ANTECEDENTS,
AND CONSEQUENCES

Francisco O. Ramirez

1988

HE023400

Francisco O. Ramirez is Associate Professor of Education at
Stanford University.

BEST COPY AVAILABLE

CERAS

Center for Educational Research at Stanford

C E R A S

Center for Educational Research at Stanford

The Center for Educational Research at Stanford serves as an overall support organization for the development, implementation, and dissemination of educational research for the School of Education at Stanford University. CERAS is the successor to both the Institute for Research on Educational Finance and Governance (IFG) and the Stanford Education Policy Institute (SEPI). CERAS projects are supported by government agencies, private foundations, and the School of Education itself. A Faculty Research Directory that describes research activities is available, free-of-charge.

Publications of CERAS represent a sample of the large number and wide range of publications and subjects associated with faculty and other researchers in the School of Education. Although research activities in the Stanford School of Education are highly diverse and cover virtually all levels of education and educational practice and all of the associated disciplines, a special effort is being made to focus CERAS resources on two major areas: research on teaching and teaching policy and research on the education of children-at-risk.

Abstract

This paper focuses cross-nationally on women's share of higher education relative to that of men. We develop an institutionalist perspective that leads to three predictions: (a) women's share of higher education will increase worldwide; (b) countries with relatively more women in higher education will also have relatively more women in the labor force and show a great commitment to legal equality between the sexes; and (c) the expansion of women's share of higher education will be minimally affected by variations in internal societal factors. Table I shows that between 1955 and 1975 there was a worldwide increase in women's share of higher education. Table II summarizes prior cross-national research that shows the positive effects of women's share of higher education on other dimensions of the status of women. Table III reveals that while most societal-characteristics are unrelated to the growth of the women's share of higher education, economic development has a positive influence. Our interpretation of this set of findings stresses their contingency on increased national exposure to a model of development fostered by the world political culture.

WOMEN'S PARTICIPATION IN HIGHER EDUCATION
CROSS-NATIONAL TRENDS, ANTECEDENTS, AND CONSEQUENCES

How should we interpret expanded levels of women's participation in higher education in nation-states throughout the contemporary world? To address this issue this paper will (a) describe cross-national trends in the growth of the women's share of higher education (female tertiary to total enrollment ratios) between 1955 and 1975, (b) analyze the impact of women's participation in higher education on other aspects of the status of women, (c) examine the influence of societal characteristics on this variable, and (d) explore the thesis that the kind and degree of national incorporation within world political culture is itself an important determinant of the accelerated proportion of women in higher educational systems.

THE THEORETICAL FRAMEWORK

My main arguments, briefly summarized, are as follows:

A. Long-term and large-scale institutional changes in the last four centuries have resulted in a world political culture into which all national societies are increasingly incorporated. This world

political culture both stimulates and restricts the internal developments of national societies as well as influences many of their interrelationships. In contemporary national societies the linkages between "state" and "economy" and between "state" and "individual" are themselves contingent on accelerated exposure to the favored model of development fostered by the world political culture. This model emphasizes the desirability of organizing society as a nation-state (Anderson 1983; Mann 1986). Strong nation-states are expected, and these in turn are expected to mobilize their populations around national development goals and to incorporate them as individual citizens of the nation-state. Strong, activist, and incorporative state organizations are hence preferred to more limited or more segmented modes of political organization. Or, as Wallerstein (1978) asserts, "...state machineries in all (his emphasis) parts of the world have in fact been systematically articulated and strengthened."

B. Worldwide conventions have emerged regarding processes of national economic development. These conventions are universalistic: all national societies can experience economic development. These conventions invoke the logic of formal rationality: economic development requires technical planning and professional expertise. Furthermore, these conventions

define the national society as the unit of development and assign to the national state ultimate responsibility for the management of this process. State-sponsored economic development and state-managed social welfare have become highly legitimated features of the contemporary theory of progress that reflect the capitalist and statist character of the broader world within which nation-states are situated (Meyer 1980; Ramirez and Thomas 1981).

C. There is also worldwide agreement as to the relationship between education and productivity and between education and citizenship. Education for economic and political development is a strong ideological component of national policies and programs (Fagerlind and Saha 1983; Fiala and Gordon 1987), and increasingly, education is directly authorized, funded, and influenced by the national state (Ramirez and Robinson 1979). In country after country the life chances of individuals and groups are contingent upon their accumulating education, the most validated cultural capital in our world. Much research discusses the demand for more education from the perspective of competing social classes (Bowles and Gintis 1976) or status groups (Collins 1977). Much competition indeed takes place, but interest-driven competition theories do not explain why education becomes the domain for

competition throughout much of the world. Indeed, even some of its earlier proponents have now questioned the explanatory power of interests theory and moved in the direction of recognizing institutional-level explanations (Bowles and Gintis 1986).

From an institutional perspective it is important to emphasize that all national societies are under worldwide ideological and organizational pressures to open the doors to higher education to greater numbers in their populations (Coombs 1968). In fact, higher educational expansion (between 1955 and 1975) has taken place throughout the world (Meyer et al. 1977; Ramirez and Boli-Bennett 1982). Competing groups may indeed rationally calculate educational advantages, but what makes educational attainment cultural capital is its global legitimation as a national system of socialization, certification, and allocation (Meyer 1977). The historical development of this process--the institutionalization of education--is poorly understood and inadequately represented in group competition theories.¹ For immediate purposes it suffices to note that in the current phase of the world system the favored model of development relies strongly on education as a determinant of both technical expertise and of social value.

D. Egalitarian ideology is a pervasive feature of the favored model of development. The nationalist movements of the last three decades have strongly espoused egalitarian ideology (Gellner 1983). Equality of opportunity to participate in the national mainstream has also become a central theme in the deliberations of the United Nations (Hufner et. al. 1987). Although national implementation of egalitarian objectives has frequently lagged behind their formal declarations, a worldwide effect of the nationalist movements has become the redefinition of egalitarianism, from a class-based revolutionary aim to a globally-legitimated cultural value. For example, equality of opportunity for women has been strengthened as a world agenda item in the last decade (Sivard 1985), though actual inequalities continue to persist in varying degrees in different countries (Ward 1984). To the extent that participation opportunities are increasingly contingent on educational attainment, one should expect to find worldwide pressures operating in favor of greater women's participation in the educational system. These pressures should result in positive change patterns in women's educational participation that cannot be adequately explained by focusing solely on societal-level variations in economic, political, or social structures. These

change patterns reflect the egalitarian influences of the model of development that the world political culture fosters on national societies. While enjoying varying degrees of internal autonomy, national societies often operate as more or less incorporated subunits of the world political culture. The relatively greater participation of women in education should hence be conceptualized as a transnational process. Furthermore, since educational attainment is legitimated worldwide as cultural capital, higher levels of female participation in the educational system should show positive effects on other aspects of the status of women. This, too, is a worldwide process.

These general arguments are further developed in Thomas, Meyer, Ramirez, and Boli (1987). Figure 1 offers a schematic representation of these arguments. This paper specifically examines the following predictions: (1) Women's share of higher education will expand worldwide. The focus on female tertiary enrollment ratios (as distinguished from primary or secondary enrollment ratios) makes this a more conservative test of our general argument, insofar as it is more difficult for nation-states to undergo uniform changes at the more prestigious higher educational levels. (2) Countries with relatively

higher levels of women's participation in tertiary education will also show relatively higher levels of women's participation in the labor force, lowered fertility rates, and greater degrees of legal equality between the sexes. (3) Changes in women's educational participation levels will only be minimally affected by societal-level variations. Lastly, this paper explores the thesis that the kind and degree of national incorporation into the world political culture facilitates the expansion of the relative level of women's participation in higher education.² That is, countries that are more attuned to world political organization and ideology are more likely to adhere to its egalitarian imperatives.

How do these predictions square with the predictions that follow from modernization or developmentalist theories and with the hypotheses implied by theories emphasizing class or status conflict dynamics? First, neither modernization nor conflict arguments lead to the prediction of a worldwide increase in women's participation in higher education. Both sets of arguments are predicated on the assumption that the internal structures of national societies are important determinants of expanded women's access to higher education. Since these internal structures vary across national societies one

should expect variability in the direction of cross-national changes in women's tertiary enrollment patterns. From the standpoint of modernization theory, the status of women (e.g., female participation in tertiary education) should improve under conditions of economic growth (Lenski 1966) and under conditions of social and political Westernization (Goode 1963). Conflict theories either provide society-specific interpretations of the phenomena or assume a la Poulantzas (1973) that under certain threat conditions the more powerful states are more likely to institutionalize the appropriate reforms (e.g., allowing more women into higher education) in order to save the capitalist system by creating the illusion of equality. For different reasons focusing on the effects of official ideology these arguments also predict that the status of women will be upgraded in the socialist systems (see the papers in Eisenstein 1979). Hence, one should expect to find that the socialist countries are more likely to expand the relative level of women's participation in tertiary education.

Do these arguments expect relatively higher levels of female tertiary enrollment to influence other aspects of the status of women in society? Modernization arguments deal with the impact of

educational attainment on the life chances of individuals but do not directly consider institutional-level processes and effects. Conflict arguments are more likely to take the latter into account. However, these arguments predict little change in the status of women in society will follow from the expansion of women's share of higher education (Freeman 1978; but see Eisenstein 1981 for a revision of the dominant conflict perspective on reforms). Neither set of arguments especially concerns itself with the impact of greater national integration into the world political culture on women's participation in tertiary education.

RESEARCH DESIGN AND MEASUREMENT

The first prediction is tested by examining cross-national trends in the growth of women's tertiary enrollment ratios. These ratios are computed by dividing the total number of women in tertiary education over the total number of persons (women plus men) in tertiary education. These ratios indicate the relative levels of women's participation in tertiary education, the women's share of higher education. The closer the ratios approach the fifty percent level, the greater the degree of equality of educational opportunity for women. These ratios are computed every five years from 1955 to 1975 (UNESCO 1972, 1978).

Table II summarizes the results of several studies that test the second prediction. These studies directly estimate the impact of cross-national variations on the relative level of women's participation in higher education on five dependent variables that tap other dimensions of the status of women. These variables are (1) the women's share of the paid labor force, (2) the women's share of the administrative and managerial strata of the paid labor force, (3) the degree to which marital status impedes women's participation in the paid labor force (this is referred to as the housewifery index), (4) the constitutional status of women, and (5) the national fertility rate.

The labor force participation measures are taken from the ILO Statistical Yearbook (1972). The original analyses using these measures are reported in Weiss, et al. (1976) and in Ramirez and Weiss (1979). The information used to construct the index of housewifery is found in the UN Demographic Yearbook (1968). The index scores are computed in either one of two ways: (a) subtracting the proportion of single women who are in the labor force from the percent of married women in the labor force, or (b) dividing the proportion of employed single women by the percent of employed married women. The results reported in this paper are

obtained using the second computational method, but very similar results are found when the first method is used. The greater the difference in the labor force participation rates of single and married women, the higher the housewifery index scores. The index is hence interpreted as the degree to which marital status inhibits women's participation in the labor force. The results of the analysis of the index of housewifery are found in Ramirez (1981).

The Constitutional Status of Women is a three-point scale that distinguishes among three types of national constitutions: (1) those that fail to affirm equality between the sexes (zero points), (2) constitutions that affirm equality but make no reference to state policy or implementation (one point), (3) and constitutions that both affirm the principle of equality and indicate that achieving this goal is a state policy (two points). The constitutional codes developed by Boli-Bennett (1976) are applied to national constitutions found in Blaustein and Flanz (1976) and other archival sources. The results of this analysis are also found in Ramirez (1981). The fertility variable is measured by the total fertility rate or average completed family size. The 1975 fertility rate estimates are taken from Tsui and Brogue (1979) and analyzed in Ward (1985). In 1975

the average national level of fertility was 3353 births per 1000 women.

In the aforementioned studies, the effects of women's tertiary enrollment ratios are estimated in regression equations that also estimate the effects of measures of economic development and of state authority and power. (The specific measures used are identified in Appendix A.) All of these studies employ cross-sectional research designs, because there is inadequate data over time on the dependent variables. Although caution should be exercised in drawing causal inferences, it should be stressed that none of these dependent variables shows a significant positive effect on changes in women's tertiary enrollment ratios between 1965 and 1975. It is, therefore, plausible to interpret the findings in Table II as suggesting some consequences that follow from expanded women's access to higher education.

Tests of the third prediction are undertaken in Table III using multivariate panel regression analysis.³ The 1975 women's tertiary enrollment ratio is the dependent variable in these analyses. The independent variables are measures of national economic development, social and political modernization, and expanded state authority and power. These measures have been utilized in much prior cross-national

research, and their merits and shortcomings have been discussed at great length in the papers in Meyer and Hannan (1979; in particular, see Chapters 3 and 6). A brief description of each measure is found in Appendix A. The analyses in Table III employ a panel design: each equation includes a measure of the prior 1965 level of women's tertiary and secondary enrollment ratios. Furthermore, to control for the influence of the rate of tertiary system growth on the relative level of women in tertiary education in 1975, we include the following measure: number of male tertiary enrollments in 1975 divided by its prior value in 1965. Each equation contains three independent variables of substantive interest and three additional variables primarily utilized for statistical control purposes. The number of cases in each equation varies from thirty-six to sixty-eight.

The thesis that national incorporation into world political culture positively affects women's participation in higher education is explored within the framework of the discussion of the research findings. This thesis is contrasted with the argument set forth within an economic dependency model (Ward 1984).

FINDINGS

The First Prediction: The Worldwide Increase in the Female Share of Higher Education.

The first row in Table I compares the mean scores for a constant panel of sixty countries. These are the countries with data on the female tertiary enrollment ratio for all five time periods. The overall pattern is clearly one of growth throughout this period. In 1955 a national average of about one out of four tertiary education students were women (25.2%); by 1975 the national average showed that better than one out of three was female (35.4%).

(TABLE I ABOUT HERE)

The next six rows examine the trend in the female tertiary enrollment ratio across six different regions. Within each region we examine the trend for a constant panel of countries. The basic objective is to determine whether some regions sharply differ from the rest of the world with respect to changes in women's participation levels in higher education. That is, are there regions in which there are no changes in the relative levels of female tertiary enrollment, or, worse, are there downward shifts? The answer to this query is straightforward: In all six regions, the 1975 levels of women's educational participation exceed the 1955 levels. It is instructive to compare the 1955-

1965 period with the 1965-1975 period. In the earlier period, some regional differences may be observed. There is clear upward change in the Latin America/Caribbean, Eastern European, and Western Europe/Anglo-America regions and an enormous increase in Asia, the area with the lowest average level of female tertiary enrollment in 1955. In both the African and in the Middle Eastern/North African regions there is a slight decline in women's share of higher education between 1955 and 1960, followed by a slight increase to 1965 levels quite similar to the 1955 levels. Many African countries, however, had not gained political independence until 1960, and from 1960 onward the direction of change in Africa is similar to that characterizing the rest of the world. From 1965 to 1975 every region experienced an increase in the relative levels of women's educational participation: there are no region-level reversals. (See Appendix B for specific country scores for 1965 and 1975.) This is a particularly striking finding when one recalls that during the same period the overall system of higher education is expanding and that in most countries a significantly large male population is available for further inclusion into higher education.⁴ This finding is consistent with the widely held

supposition that issues regarding the rights of women became more salient from the mid-1960s onward.

The first prediction is clearly supported by the worldwide increase in women's participation in higher education. But what does expanded access to higher education do to other aspects of the status of women? At the individual level of analysis, women with more years of schooling are more likely to attain the more prestigious occupations (Roos 1985; Trieman and Terrell 1975), though at lower levels of remuneration (see the papers in Kelly and Elliot 1982 for Third World countries; see Baron and Bielby 1986 for the United States). But the issue beforehand is whether national societies with relatively more women in higher education are also more likely to positively influence female participation in the paid labor force, to lower their fertility rates, and to upgrade their legal standing within their societies. Few cross-national studies explicitly deal with this institutional level of analysis (but see Weiss et al. 1976; Ramirez 1981; Ward 1984) And yet this is precisely what needs to be done to determine whether opening the doors to higher education for women has positive consequences for women as a group, beyond the individual-level gains and limits that the more educated women are apt to face. From both a research and a policy perspective it is

necessary to come to grips with this issue at this level of analysis.

The Second Prediction: The Impact of Variations in the Women's Share of Higher Education (Female Tertiary Enrollment Ratios) on other Aspects of the Status of Women.

Let us turn now to Table II and observe the relationship between the relative level of women's participation in tertiary education (female tertiary enrollment ratio) and other aspects of the status of women. We expect to find that countries with relatively greater female participation in higher education will also enhance women's participation in the work force, lower their fertility rates. and provide women with greater legal equality vis-a-vis men. As indicated earlier, Table I summarizes prior cross-national multivariate analyses of five dependent variables. Table II allows us to examine five specific tests of the general prediction: relatively greater levels of female tertiary enrollment ratios will be positively associated with (1) relatively higher levels of women in the paid labor force, (2) relatively higher levels of women in the administrative and managerial strata of the labor force, (3) higher levels of married women relative to the levels of single women in the labor force (this should appear on Table II as a

negative effect on the degree of housewifery), (4) greater legal egalitarianism with respect to the constitutional status of women, and lastly, (5) a lowered fertility rate.

Let us now examine the findings reported in Table II. First, note that countries with relatively more women in higher education are also more likely to have more women in both the whole labor force and in its more prestigious administrative and managerial strata.⁵ Since many employed women in many countries are not themselves highly educated, this finding cannot be sensibly discussed only in individual-level status attainment terms. What seems to be going on is that as relatively more women enter higher education, relatively more occupational slots become accessible to women regardless of the educational attainment of the female employees. This process may reflect the degree to which the expansion of the female share of higher education leads to the demystification of traditionally male occupations, thereby allowing greater women's participation within these occupations (Weiss et al. 1976). Or, having more educated women may more successfully activate the modern ideology that assigns great value to female participation in the work force. Either interpretation may also be applied to the third finding, that is, the impact of greater female access

to higher education on the differences in the labor force participation rates of married and single women.

The negative sign in the third row indicates that in countries with relatively more women in higher education, marital status is less likely to impede female participation in the work force. It is possible that this finding furthermore reflects a decline in male authority over female spouses--an authority often symbolized by social norms restricting married women to the domestic sphere (Cook 1974; but see Scott 1974). In the fourth equation we see that constitutional egalitarianism between the sexes is more likely to prevail in countries with relatively more women in higher education. Lastly, Table II shows that women's fertility level is lower in countries where women have greater access to higher education relative to men's access. Though the association between more schooling and lowered fertility has been frequently discussed at the individual level of analysis (e.g., Le Vine 1980), the association at the societal level of analysis may require a more macroinstitutional interpretation. Perhaps, an overall climate favoring lowered fertility is brought about by the increased levels of women's access to higher education. The latter may generate increased perceptions of expanded economic and

political opportunities for all women, which in turn may lead to reduced fertility levels.

(TABLE II ABOUT HERE)

All the findings reported in Table II support the second prediction. For women as a group, greater access to higher education is a process associated with greater access to the work force, with greater legal equality, and with lowered fertility. How can these findings be reconciled with the historical evidence that greater access to higher education has failed to upgrade the participation patterns and legal status of American women (Graham 1978)? It should be evident that just as one cannot logically make inferences about a population of national societies on the basis of data characterizing any one national society, so, too, a general finding need not necessarily hold for any one specific case. Furthermore, the findings in Table II may be period-specific and should not be extrapolated to other historical eras. It has not always been appropriate for highly-educated women (or their male kin or the national state organizations) to seek (or to foster the seeking of) employment (or equality) for themselves or for women in their societies. As our main arguments indicated, institutional interrelationships--in this case, the relationship between greater participation in higher education and

greater participation in the labor force (and greater legal equality and reduced fertility)--should be viewed not as functional laws but as interrelated processes contingent on an increased exposure to the favored model of development fostered by the world political culture. There is nothing timeless about the connection between education and work or education and ideological equality. It should not surprise us, therefore, that different processes operated in prior eras. Nor should current findings be dismissed because they do not mirror the relationship that held or failed to obtain under different world conditions. In the current world, in which higher education is cultural capital par excellence (Bourdieu and Passeron 1970) and in which egalitarianism within society is a legitimated (and legitimizing) ideology, the status of women is altered as more women enter the realm of higher education.

The Third Prediction: The Impact of Societal-Level Variations on the Women's Share of Higher Education (Female Tertiary Enrollment Ratios).

Having established that greater female access to higher education is socially consequential for women as a group, we now turn to investigate what societal-level conditions increase the relative number of women in tertiary education. Ramirez and Weiss (1979) find very

little evidence of systematic societal-level effects in multivariate panel analyses for the time periods 1960-1970 and 1965-1970. But Table I shows that much of the upward movement in women's tertiary enrollment ratios took place between 1965 and 1975. Table III focuses on the 1975 female tertiary enrollment ratios and regresses this variable on earlier time indicators of economic development, social and political modernization, and expanded state authority and power. Ordinary least-square estimators are used in these analyses. Each row in Table III represents a multivariate regression equation which constitutes a specific test of the general prediction that societal-level variations will only minimally affect the expansion of the women's share of higher education. Within each column one may examine the effects of a specific variable across different equations.

Let us examine the findings in Table III. The first measure of economic development is gross national product per capita. To correct for a skewed distribution we take the logged values of this variable. The effect of gross national product per capita are estimated in equations one through three and in equations seven through nine. This measure positively affects the female tertiary enrollment ratio (1975) in all of these equations. In all but the last

equation its effects are statistically significant at the .05 level or better.⁶

In analyses not reported in this paper, when we replace this measure with a similar indicator of economic development, the amount of electricity consumed per capita, the pattern of findings that emerges is virtually the same one associated with the gross national product per capita variable. But a slightly different pattern is to be found when economic development is measured by the percent of the male labor force that is not in the agricultural sector. This measure is used in equations four through six and in equations ten through twelve. Although the effects are always in the expected direction, the effects are significant only in equations four and five.

Comparing the effects of the economic development indicators suggests that the overall levels of national wealth and industrialization were more important influences on the female share of higher education than the extent to which the industrial and service sectors of the work force were developed. However, the overall pattern of economic effects is not consistent with the third prediction. Although expanded resources and a more developed nonagricultural base did not seem to affect the relative level of female tertiary enrollments in other time periods (e.g., Zimmer 1976;

Stewart and Winter 1977) and in cross-sectional comparisons with smaller samples of countries (e.g., Youssef 1974), clearly these economic factors give some countries an edge over others in the promotion of the women's share of higher education in the 1965-1975 decade.

(TABLE III ABOUT HERE)

Throughout these analyses the Cutright index of formal political representation, a measure of political modernization, fails to show any significant positive effects (equations one through six). In fact, in all but one of the equations the effects were in the negative direction. A very similar pattern of findings (not reported in this paper) is obtained in analyses where political modernization is measured by the Banks and Textor indicator of how modern or traditional the national bureaucracies are. These findings suggest that having more modernized political decision-making bodies and/or bureaucratic structures is not more conducive to attaining greater growth in the female share of higher education.

In equations seven through twelve we gauge the influence of social modernization as measured by the level of national urbanization. The pattern of results is consistently positive but only in two rows (equations ten and twelve) are the observed effects

significant. While urbanization, unlike political modernization, positively increases the relative number of women in tertiary education, the urbanization effects tend to be small. The overall pattern of political and social modernization effects is consistent with the prediction of minimal societal-level effects.

The effects of three measures of distinctive dimensions of state authority and power are reported in Table III. The party system measure contrasts one party with both two- and multi-party political systems. One-party states are presumed to be more unitary in character and are assigned the highest scores on this scale. In equations one and four this variable shows negative effects but its effects are positive in equations seven and ten.⁷ In all these analyses the regression coefficients are very small relative to the size of the standard errors. The next indicator is the index of the constitutional powers of the state. This measure shows the most consistent pattern of positive "statist" effects on the relative level of women's participation in higher education. This measure captures the degree to which the ideology of a state-managed society is found in national constitutions. This ideological commitment to the activist state is very much mandated by the world system, and

economically less developed countries are as likely to articulate such commitments in their fundamental law as the more economically developed ones (Boli-Bennett 1979). Other studies show that such states have strong incorporative tendencies (Boli-Bennett and Meyer 1978; Kamens 198³), and this may explain their greater propensity for promoting growth in the female share of higher education. The third indicator, government revenue as a percent of the gross domestic product, reflects the fiscal power of the state. In equations three, six, and nine its effects are negligible and vary in direction. In the last equation, government revenue shows a significant positive effect.

We turn now to the control variables. The tertiary system growth measure shows modest and statistically insignificant effects. The exclusion of this variable from the analyses does not seriously alter our findings. The prior level of female tertiary enrollment ratio positively affects the subsequent level with a coefficient value that ranges from .63 to .78. This autoregression coefficient was lower than expected and suggests that much of the change process is not simply a function of some earlier state of the dependent variable. The prior level of female secondary enrollment has an even smaller positive effect than the tertiary autoregression term. This

suggests that we are not dealing with only a simple cohort process in which structural factors influence the women's share of higher education through the process of influencing the women's share of secondary education.

DISCUSSION

How are we to interpret these findings? To begin with, it is important to keep in mind that between 1965 and 1975 most countries experienced growth in their female tertiary enrollment ratios (see Appendix B for a list of country scores for 1965 and 1975). We are not primarily comparing "ascenders" versus "decliners" but, rather, different degrees of increase in women's participation in higher education. Moreover, we are examining change in a specific time period. Clearly, a more productive economy has not always propelled countries to expand the female share of higher education. The higher levels of women's participation in tertiary education in the USSR preceded its economic rise in the world (Lapidus 1978). And, historically, much industrialization has taken place without giving women in these countries a greater proportion of tertiary enrollments. Likewise, the emergence of strong, centralized, or activist states did not initially result in greater participation for women in

the public sphere. In fact, some accounts of the impact of industrialization and state formation on the status of women suggest that quite the opposite may be true (Zaretsky 1976). Lastly, Western-style libertarian individualism certainly played a historical role in shaping both feminist demands and greater female participation at the turn of the century (Eisenstein 1981). Its current failure to promote women's participation in higher education should not be extrapolated back in time to reinterpret a quite different set of dynamics.

There are no societal-level characteristics which have consistently influenced women's participation in higher education with the same force over time. Explanatory efforts are flawed if these seek to unravel the logic of "development" or "statism" independently of the character of the world political culture which infuses these societal-level factors with different logics (and, therefore, different structural consequences) during different historical periods (Ramirez 1987). Explanatory efforts should attempt to specify both (a) the world system conditions under which development and/or statism lead to higher levels of female tertiary enrollment and (b) the world system processes through which national subunits are linked to the broader organizational and cultural milieu.

This paper has sketched some relevant world political cultural desiderata: state-sponsored economic development, nationalized educational systems with diffuse socialization, certificational, and allocational functions, egalitarianism within national societies, the incorporation of individuals as citizen-agents of national states.

The political culture of the world system has never historically favored all of these central features of an overall model of development. Structural alternatives emphasizing less state involvement in economies, less rationalized systems of instruction (e.g., apprenticeships), or the maintenance of status distinctions between broad categories of persons (e.g., female/male) have never in the past so much lacked global legitimation. The overall model of development is shaped by the world system, and indeed in the current world historical era there is comparative evidence that shows that those national subunits which succeed in developing stronger state machineries are more likely to foster economic growth (Delacroix and Ragin 1978), nationalize educational systems (Ramirez and Robinson 1979), and promote greater social equality (Robinson 1976). But these institutional interrelationships are in a sense

conditioned by the permeation of national subunits by the favored model of development.

The findings reported in Tables I, II, and III are best interpreted within a world system framework of analysis. But we have yet to identify the processes through which national subunits are linked to the larger world political culture, and hence, exposed to its favored model of development. In the last four hundred years new territories were incorporated into an expanding European political economy in two ways: through exchanges with merchants and through contacts with "missionaries."⁸ The formation of these linkages was often preceded by the destruction of diverse modes of production, political organization, and cultural patterns. The linkages themselves were interrelated but nevertheless constituted qualitatively different modes of incorporation into a developing world system. It was possible to experience a level of exposure to Western modes of organization and thought without enduring a corresponding level of trade relationships with Western countries (e.g., Japan).⁹ It was also possible to experience greater economic penetration without a corresponding level of political and cultural exposure (e.g., China). The scope of this paper does not warrant further discussion of the complex differences in the historical development of subunits

that varied in the ways in which these were incorporated into the world system (but see Moulder 1977; see also Evans' (1987) comparison of the current state of Latin American and Southeast Asian countries 1987). For immediate purposes, what is essential is to set forth the implications of this distinction for understanding changes in female educational patterns.

In the contemporary era, national subunits are linked to the world system through trade and through political contacts not unlike some of the dynamics of association with the earlier missionaries. These contacts include the formal establishment of diplomatic ties with other national subunits as well as expanding memberships in international organizations (Naumann and Hufner 1984). National societies vary in the extent to which these participate in the larger diplomatic and transnational circles. National societies also vary in the degree to which their national wealth is contingent on their involvement in trade relations. The latter has often been discussed as an indicator of international economic dependency, although its positive effects on both economic development (Snyder and Kick 1979) and state power (Cameron 1978) are not in the same direction as the effects of more widely used measures of investment dependency relations. More refined analyses of the economic and political

consequences of the more political forms of incorporation in the world system (as distinguished from economic dependency ties) need to be undertaken.

Figure 1 indicates that we expect a positive impact on both economic development and state power. Figure 1 further indicates that we expect that national societies which have been most politically incorporated within the world system would be most likely to expand the relative level of female participation in higher education. If high levels of trade involvement reflect no more than dependency on foreign capital, there is no reason to expect a positive influence on the female tertiary enrollment ratio (or any other aspect of the upgraded status of women (Ward 1984; Chinchilla 1970)). But if exposure to foreign trade involves contact not only with merchants but also with "modern missionaries" (e.g., transnational civil servants, planners, and development experts) expounding the virtues of the favored model of development, then increased women's participation in higher education should follow. This increase should reflect both a greater national commitment to viewing women as increased human capital resources as well as a greater national reluctance to retain world-denigrated cultural obstacles to increased female participation in extrafamilial institutions.

CONCLUSIONS

Between 1955 and 1975 there was a worldwide increase in the relative level of women's participation in higher education. This upward movement in female tertiary enrollment ratios was especially not region-specific between 1965 and 1975. Countries that in 1965 showed higher levels of the women's share of tertiary education were more likely to also show greater women's participation in the paid labor force, a lowered fertility rate, and a greater commitment to legal equality between women and men. These structural consequences suggest that expanded levels of female participation in tertiary education have institutional-level effects on women. National economic development (and, to a less extent, expanded state constitutional authority) positively contributed to the growth of the female tertiary enrollment ratio between 1965 and 1975. Social and political modernization tended to show small effects in varying directions.

A world system interpretation of these findings emphasizes the degree to which the political incorporation of women via their further inclusion in higher education is part of an overall model of development fostered by the current world political culture. We contend that this model favors state-

sponsored economic development, national educational certification, and an incorporative egalitarian ethic. We note that neither economic development nor state authority and power stimulated women's participation in higher education in other world historical eras. Nor was expanded female participation in higher education as socially consequential for women as it appears to be in this era. More restricted societal-level explanations fail to grasp that institutional interrelationships differ across historical eras reflecting different world system dynamics.

Finally, we contend that national societies that are more incorporated into the contemporary world system are more likely to expand their female tertiary enrollment ratios. But this assertion is contingent on the nature of the incorporation process. Societies incorporated merely as overseas trading depots or factories are ones in which women (and men) are likely to be viewed and organized as cheap and easily exploitable labor in what has been called a global assembly line. But societies incorporated as relatively autonomous nation-states are likely to embrace reigning world doctrines of progress and justice. Obstacles to women's access to higher education are likely to go the way of footbinding and veils. Further research is clearly needed to assess

this world political cultural interpretation of a global trend favoring more women in higher education, its institutional-level consequences for women, and its societal and world systemic antecedents.

APPENDIX A

Variables, Indicators, and Sources for Analyses
presented in Table III.

(1) Indicators of Economic Development:

Logarithm of Gross National Product per Capita 1955. Data are from the World Tables (IBRD 1971) measured in 1964 U.S. dollars. The measure is logged because of its skewed distribution.

Logarithm of Kilowatt-Hours of Electricity Consumed per Capita 1955. Data on energy consumption are from Taylor and Hudson (1971).

Percentage of the Male Labor Force Not in Agriculture 1950. Data are from ILO (1971) which provides the best comparative data on labor force structures and participation rates.

(2) Indicators of Political and Social Modernization:

Formal Political Representation Index. This index, developed by Cutright (1969), reflects the extent to which legislators and chief executives are popularly elected and the degree to which the legislature reflects diverse party interests. Only independent countries are included in this measure. Communist countries are not coded because of ambiguity

in the meaning of these criteria in those countries.
The index is coded for the years 1950-1955.

(3) Indicators of State Power and Authority:

Political Party System. This indicator distinguishes between the following types: (a) One party, (b) One party dominant, (c) Two party systems, and (d) Multi-party systems. It is assumed that the fewer the number of political parties the greater the likelihood of the party structure becoming a powerful symbol of the collective interests and purposes of the nation. This measure is taken from Banks and Textor (1963) and characterizes party systems around 1955.

Constitutional Powers of the State. This index is derived from a comprehensive coding of national constitutions (Boli-Bennett 1979). The index sums the number of administrative mechanisms set forth to facilitate the exercise of state jurisdiction. Country scores may range from zero to one hundred and thirteen. The index is utilized as a measure of the extent to which the corporate authority of the state is legally institutionalized. 1950 country scores are utilized in the analyses.

Government Revenue as a Percent of Gross Domestic Product. This measure consists of the total national government revenue as a percentage of the total

national income. Government revenue includes the amount of tax revenue plus nontax revenues plus indirect taxes. The data are taken from World Table 6 of the IBRD (1971). This variable is averaged for the years 1961-1967. This variable indicates the degree to which the economy is controlled by the state.

APPENDIX: B
FEMALE TERTIARY ENROLMENT RATIOS
(1965 and 1975) BY COUNTRY*

COUNTRY	1965	1975
ALGERIA	20.	23
BURUNDI	5.	11.
CAMEROON	4.	15.
CONGO	14.	10.
BENIN	3.	15.
ETHIOPIA	7.	9.
GHANA	11.	16.
GUYANA	15.	17.
LESOTHO	21.	42.
LIBERIA	21.	22.
LIBYA	8.	18.
MALAWI	7.	14.
MALI	12.	10.
MAURITIUS	1.	14.
MOROCCO	12.	19.
MOZAMBIQUE	36.	34.
NIGERIA	12.	16.
SENEGAL	18.	17.
SIERRA-LEONE	17.	16.
SOMALIA	10.	11.
SUDAN	7.	16.
TANZANIA	13.	14.
TOGO	20.	14.
TUNISIA	18.	26.
UGANDA	15.	18.
EGYPT	21.	30.
BURKINA FASO	21.	20.
CANADA	40.	45.

*Only countries with information for both 1965 and 1975 are included in the analysis. Hong Kong is excluded from the analysis because it is so clearly a deviant case.

APPENDIX: (continued)

COUNTRY	1965	1975
DOMINICAN REPUBLIC	32.	46.
EL SALVADOR	21.	33.
GUATEMALA	14.	23.
HAITI	12.	24.
HONDURAS	20.	34.
NICARARAGUA	26.	34.
PANAMA	46.	50.
PUERTO RICO	50.	53.
TRINIDAD AND TOBAGO	37.	38.
UNITED STATES	39.	45.
ARGENTINA	39.	48.
BRAZIL	30.	41.
CHILE	38.	45.
GUYANA	15.	35.
PERU	34.	32.
VENEZUELA	33.	45.
AFGHANISTAN	19.	14.
SRI LANKA	32.	36.
CYPRUS	41.	40.
IRAN	24.	28.
IRAQ	27.	33.
ISRAEL	44.	46.
JAPAN	25.	32.
JORDAN	32.	33.
LAOS	16.	28.
MALAYSIA	34.	34.
PAKISTAN	21.	24.
SAUDI ARABIA	3.	20.
SINGAPORE	36.	40.
SYRIA	17.	25.
THAILAND	34.	40.
TURKEY	21.	16.

APPENDIX: (continued)

COUNTRY	1965	1975
VIET NAM	15.	39.
AUSTRIA	24.	38.
BELGIUM	33.	41.
BULGARIA	43.	57.
CZECHOSLOVAKIA	38.	40.
DENMARK	35.	44.
FINLAND	49.	50.
FRANCE	38.	48.
FEDERAL REPUBLIC OF GERMANY	24.	39.
DEMOCRATIC REPUBLIC OF GERMANY	29.	52.
GREECE	32.	37.
HUNGARY	39.	48.
IRELAND	30.	34.
ITALY	34.	39.
LUXEMBOURG	33.	42.
MALTA	34.	28.
NETHERLANDS	25.	33.
NORWAY	34.	38.
POLAND	46.	54.
PORTUGAL	37.	45.
ROMANIA	39.	44.
SPAIN	23.	36.
SWEDEN	41.	40.
SWITZERLAND	20.	27.
UNITED KINGDOM	29.	36.
YUGOSLAVIA	34.	40.
AUSTRALIA	29.	41.
NEW ZEALAND	21.	36.
SOVIET UNION	44.	50.
BARBADOS	43.	44.
ICELAND	27.	37.

FIGURE 1
WORLD SYSTEM DYNAMICS AND THE
POLITICAL INCORPORATION OF WOMEN

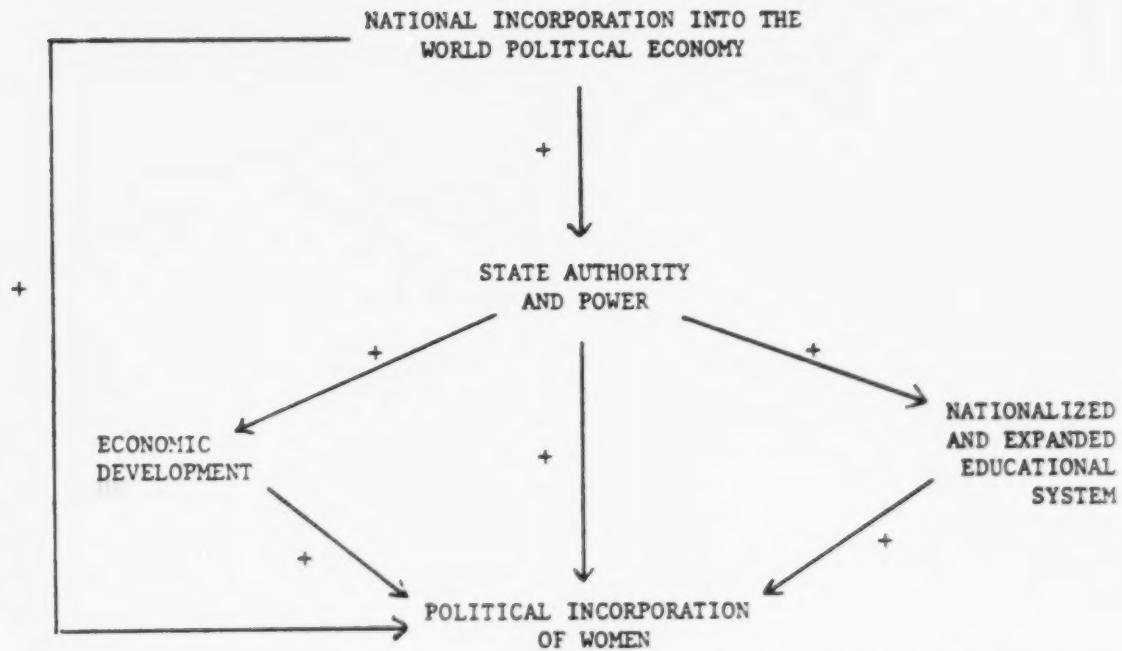


TABLE I
A LONGITUDINAL COMPARISON OF MEAN SCORES
OF FEMALE TERTIARY ENROLLMENT RATIOS*
FOR ALL COUNTRIES AND FOR SELECTED REGIONS

	1955	1960	1965	1970	1975
ALL COUNTRIES n = 60	25.2	27.1	29.5	32.2	35.4
AFRICA n = 8	12.0	11.3	12.9	16.3	17.9
LATIN AMERICA CARIBBEAN n = 13	30.6	35.4	34.0	37.2	42.0
ASIA n = 7	19.0	22.6	30.0	30.3	30.3
MIDDLE EAST NORTH AFRICA n = 5	21.2	18.4	20.6	22.6	24.6
EASTERN EUROPE n = 7	33.4	33.9	38.4	43.1	46.9
WESTERN EUROPE** n = 20	27.3	29.3	32.1	34.5	38.5

* Female tertiary enrollment ratio = $\frac{\text{female tertiary enrollment}}{\text{total tertiary enrollment}}$

**Includes the United States, Canada, Australia and New Zealand

TABLE II:
A SUMMARY OF THE EFFECTS OF FEMALE TERTIARY ENROLLMENT RATIO (1965)
ON OTHER MEASURES OF WOMEN'S STATUS AND PARTICIPATION

EQUATION NUMBER	DEPENDENT VARIABLES	ECONOMIC DEVELOPMENT	STATE AUTHORITY AND POWER	FEMALE TERTIARY ENROLLMENT RATIO	N	SOURCE
1	% Women in Labor Force (1965)	b .0003 SE (.002) beta .18	.009** (.002) .46	.269* (.134) .25	49	Weiss et. al. 1976
2	% Women in Administrative/ Managerial Category (1965)	b .001 SE (.002) beta .08	.001 (.002) .08	.0344** (.098) .51	41	Weiss et. al. 1976
3	Fertility Rate (1975)	b-663.66* SE (.) beta -.59	No Effects	-27.21* (.) -.17	61	Ward 1985
4	Houswifery Index (1965)	b -.000 SE (.001) beta -.058	-.133 (.059) -.331*	-.051* (.020) -.48	30	Ramirez 1981
5	Constitutional Status of Women Index (1970)	b -.000 SE (.000) beta -.067	.035 (.009) .344**	2.84* (1.30) .26	74	Ramirez 1981

*p < .05
**p < .01

TABLE III:

MULTIVARIATE ANALYSES OF THE EFFECTS OF ECONOMIC DEVELOPMENT, POLITICAL AND SOCIAL MODERNIZATION, AND STATE AUTHORITY AND POWER
ON THE FEMALE TERTIARY ENROLLMENT RATIO (1975)

DEPENDENT VARIABLE: FEMALE TERTIARY ENROLLMENT RATIO - TIME LAG: 1965 - 1975

INDEPENDENT VARIABLES

Equation Number	Measures of Economic Development		Measures of Political and Social Modernization		Measures of State Authority and Power			CONTROL VARIABLES			N
	Log GNP per capita	% Male Labor Force not in Agriculture	Cutwright Index of Political Representation	Urbanization	Party System	Constitutional State Powers	Gov't. Rev. as percent of GOP	Tertiary System Growth 65-75	Female Secondary Enrollment Ratio	Auto-Regression Term	
1	9.0 ^a (2.7) ^{bxx}		-.21(.12) ^{xx}		-.56(.60)			.0003(.0009)	.04(.07)	.63(.09)	39
2	8.5(2.3)		-.10(.12)			.09(.03) ^{xx}		.0047(.0056)	-.01(.06)	.64(.08)	36
3	11.1(2.9) ^{xx}		-.13(.10)				-.14(.12)	.0006(.0008)	.03(.06)	.67(.08)	49
4		.12(.04) ^{xx}	-.17(.12)		-.74(.77)			.0006(.0008)	.02(.07)	.67(.09)	38
5		.11(.04) ^{xx}	.04(.12)			.08(.03) ^{xx}		.0088(.0061)	-.04(.07)	.69(.08)	36
6		.06(.05)	-.04(.11)				.10(.12)	-.0005(.0008)	.06(.07)	.73(.09)	49
7	5.5(2.6) ^{xx}			.11(.07)	.53(.67)			Significance level too low	.06(.05)	.69(.09)	50
8	4.4(1.9) ^{xx}			.05(.04)		.04(.03)		.004(.005)	.01(.04)	.73(.08)	48
9	3.2(3.3)			.06(.05)			.07(.14)	-.0010(.0008)	.08(.05)	.65(.08)	68
10		Significance level too low		.18(.06) ^{xx}	.23(.68)			-.0007(.0009)	.04(.05)	.78(.07)	50
11		.06(.04)		.06(.05)		.04(.03)		.0044(.0055)	Significance level too low	.77(.07)	48
12		.05(.04)		.12(.05) ^{xx}			.23(.10) ^{xx}	-.0014(.0008)	.084(.047)	.71(.07)	68

a: Unstandardized Regression. b: Standard Errors. x: p<.05 xx: p<.01

REFERENCES

- Anderson, Benedict. 1983. Imagined Communities: Reflections on the 1983 Origins and Spread of Nationalism. New York: Verso.
- Banks, Arthur S. 1975. Cross-National Time-Series Data Archive. Binghamton: Center of Comparative Political Research, State University of New York.
- Banks, Arthur, and Robert Textor. 1963. A Cross-Polity Survey. Cambridge: MIT Press.
- Bielby, W. and J. Baron 1986. "Men and Women at Work: Sex, Segregation and Statistical Discrimination" American Journal of Sociology 91: 759-99.
- Blaustein, Albert P., and Gisbert H. Flanz. 1971. Constitutions of the Countries of the World. New York: Oceana Publications Incorporated.
- Boli-Bennett, John. 1979. "The Ideology of Expanding State Authority in National Constitutions, 1870-1970." Pp. 222-37 in National Development and the World System, edited by John Meyer and Michael Hannan. Chicago: University of Chicago Press.
- Boli-Bennett, John, and John Meyer. 1978. "The Ideology of Childhood and the State: Rules Distinguishing Children in National Constitutions, 1870-1970." American Sociological Review 43 (December): 797-812.

- Bourdieu, P. and J.C. Passeron, 1977. Reproduction in Education, Society, and Culture. Beverley Hills, CA: Sage Publications.
- Bowles, Samuel and Herbert Gintis. 1976. Schooling in Capitalist America. New York: Basic Books.
- Bowles, Samuel, and Herbert Gintis. 1986. Democracy and Capitalism. New York: Basic Books.
- Cameron, David. 1978. "The Expansion of the Public Economy: A Comparative Analysis." The American Political Science Review 72:1243-1261.
- Chase-Dunn, Christopher. 1975. "The Effects of International Economic Dependence on Development and Inequality." American Sociological Review 40:720-738.
- Chinchilla, Norma. 1970. "Industrialization, Monopoly Capitalism, and Women's Work in Guatemala." Signs 3:38-56.
- Cohen, Yehudi. 1975. "The State System, Schooling and Cognitive and Motivational Patterns." Pp. 103-140 in Social Forces and Schooling, edited by N. Shimorhara and A. Scrupski. New York: David McKay.
- _____. 1970. "Schools and Civilizational States." Pp. 55-147 in The Social Sciences and the Comparative Study of Educational Systems, edited by J. Fischer. Scranton: International Textbook Co.

- Collins, R. 1979. The Credential Society: A Historical Sociology of Education and Stratification. New York: Academic Press.
- Cook, Alice. 1974. The Working Mothers. Ithaca: Cornell University Press.
- Delacroix, Jacques, and Charles C. Ragin. 1978. "Modernizing Institutions, Mobilization, and Third World Development: A Cross-National Study." American Journal of Sociology 84:123-149.
- Eisenstien, Ziliah (ed.). 1979. Capitalist Patriarchy and the Case for Socialist Feminism. New York: Monthly Review Press.
- Eisenstein, Ziliah. 1981. The Radical Future of Liberal Feminism. New York: Longman.
- Evans, P. 1987. "Class, State, and Dependence in East Asia: Lessons for Latin Americanists." in F.C. Deyo, ed. The Political Economy of the New Asian Industrialism. Ithaca, N.Y.: Cornell University Press.
- Fagerlind, Ingmar, and Lawrence Saha. 1983. Education and National Development. Oxford: Pergamon Press.
- Fiala, R., and A. Gordon. 1987. "Educational Ideology and the World Education Revolution." Comparative Education Review 31:315-332.
- Freeman, Bonnie Cook. 1978. "Female Education in Patriarchal Power Systems." Pp. 207-242 in

- Education and Colonialism, edited by Philip Altbach and Gail Kelly. New York: Longman.
- Gellner, E. Nations and Nationalism. 1983. Ithaca, N.Y.: Cornell University Press.
- Graham, Patricia A. 1978. "Expansion and Exclusion: A History of Women in American Higher Education." Signs: 759-773.
- Goode, William J. 1963. World Revolution and Family Patterns. New York: The Free Press.
- Hufner, J., J. Meyer, and J. Naumann. 1987. "Comparative Education Policy Research: A World Society Perspective." Pp. in Comparative Policy Research: Learning from Experience, edited by M. Dierkes, H. Weiler, and A. Antal. Vermont: Gomer Publishing Company.
- International Bank for Reconstruction and Development. 1971. World Tables. Washington, D.C.: IBRD.
- International Labor Office. 1972. Yearbook of Labor Statistics. Geneva: ILO.
- Kamens, David. 1983. "'Statist' Ideology, National Political Control of Education, and Youth Protest." Journal of Conflict Resolution 27:563-589.
- Kelly, Gail P., and Carolyn M. Elliot (eds.). 1982. Women's Education in the Third World: Comparative Perspectives. Albany: SUNY Press.

- Lapidus, Gail. 1978. Women in Soviet Society.
University of California Press, Berkeley.
- Lenski, Gerald. 1966. Power and Privilege. New York:
McGraw-Hill.
- Le Vine, R. 1980. "Influences of Women's Schooling on
Maternal Behavior in the Third World" Comparative
Education Review 24: 878-905.
- Mann, Michael. 1986. The Sources of Social Power:
Vol. I: A History of Power from the Beginning to
A.D. 1760. Cambridge: Cambridge University
Press.
- Meyer, John. 1977. "The Functions of Education as an
Institution." American Journal of Sociology 83
(September):340-363.
- _____. 1980. "The World Polity and the Authority of
the Nation-State," in Sociological Studies of the
Modern World-System, edited by Albert Bergesen.
New York: Academic Press.
- Meyer, John, and Michael Hannan (eds.). 1979.
National Development and the World System:
Educational, Economic, and Political Change, 1950-
1970. Chicago: University of Chicago Press.
- Meyer, John W., Francisco Ramirez, Richard Robinson,
and John Boli-Bennett. 1977. "The World
Educational Revolution, 1950-70." Sociol. of
Educ. Vol. 50 (Fall).

- Moulder, Frances V. 1977. Japan, China, and the Modern World Economy: Toward a Reinterpretation of East Asian Development ca. 1600 to ca. 1918. Cambridge: Cambridge University Press.
- Naumann, J. and K. Huffner. 1984. "Evolutionary Aspects of Social and Individual Development: Comments and Illustrations from the World System Perspective" in J. R. Nesselroade and A. von Eye, eds. Individual Development and Social Change: Explanatory Analysis. New York: Academic Press.
- Poulantzas, Nicos. 1973. Political Power and Social Classes. Translated by Timothy O'Hagan. London: New Left Books.
- Ramirez, Francisco O. 1981. "Statism, Equality, and Housewifery: A Cross-National Analysis." Pacific Sociological Review. April.
- _____. 1987. "Institutional Analysis" in G. Thomas, J. Meyer, F. Ramirez, and J. Boli, Institutional Structure: Constituting State, Society, and the Individual.
- Ramirez, Francisco O., and John Boli-Bennett. 1982. "Global Patterns of Educational Institutionalization," in Comparative Education, edited by Philip Altbach, Robert Arnove, and Gail Kelly. New York: Macmillan.

Ramírez, Francisco O., and John Meyer. 1980.

"Comparative Education: The Social Construction of the Modern World System." Pp. 369-99 in Annual Review of Sociology, vol. 6. Palo Alto: Annual Review, Inc.

Ramírez, Francisco O., and Jane Weiss. 1979. "The Political Incorporation of Women." Pp. 238-249 in National Development and the World System, edited by John Meyer and Michael Hannan. Chicago: University of Chicago Press.

Roos, P. 1985. Gender and Work. SUBY Press.

Rubinson, Richard. 1977. "Reply to Bach and Irwin." American Sociological Review 42:817-821.

Rubinson, Richard. 1976. "The World Economy and the Distribution of Income Within States: A Cross-National Study." American Sociological Review 41:638-659.

Scott, Hilda. 1974. Does Socialism Liberate Women? Boston: Beacon Press.

Sivard, R. 1985. Women...A World Survey. Washington, D.C.: World Priorities.

Snyder, D., and E. Kick. 1979. "Structural Position in the World System and Economic Growth, 1955-1970: A Multiple-Network Analysis of Transnational Interactions." American Journal of Sociology 84:1096-1126.

- Stewart, A. and D. Winter. 1977. "The Nature and Causes of Female Oppression." Signs 2:531-553.
- Thomas, G., J. Meyer, F. Ramirez, and J. Boli. 1987. Institutional Structure: Constituting State, Society, and the Individual. Newbury Park, CA: SAGE Publishers.
- Trieman, D., and K. Terrell. 1975. "Sex and the Process of Status Attainment: Comparison of Working Women and Men." ASR 40:174-200.
- Tsui, A. and D. Bogue. 1978. "Declining World Fertility: Trends, Causes, and Implications," Population Bulletin XXIII, 4. Oct.
- UNESCO. 1968. Parental Rights and Duties Including Guardianship. UN Commission on the Status of Women.
- UNESCO. 1972, 1978. Statistical Yearbook. Louvain, Belgium: UNESCO.
- UNESCO. 1955. World Survey of Education Handbook. Vol. 1. Geneva: United Nations.
- United Nations. 1968. U.N. Demographic Yearbook.
- Wallerstein, I. 1978. "The Future of the World-Economy," Chap. 9, in Process of the World System. Political Economy of the World System Annuals. Vol. 3., edited by Terence K. Hopkins and Immanuel Wallerstein. Beverly Hills: Sage Publications.

- Ward, K. 1984. Women in the World Economic System: Its Impact on Status and Fertility. New York: Praeger.
- Ward, K. 1985. "The Social Consequences of the World Economic System: The Economic Status of Women and Fertility" Review VIII, 4: 561-93.
- World Bank, The. 1980. Education: Sector Policy Paper. Washington, D.C.
- Yaretsky, E. 1976. Capitalism, the Family and Personal Life. New York: Harper and Row.
- Youssef, N. 1974. Women and Work in Developing Societies. Population Monograph Series, No. 15. Berkeley: University of California Press.
- Zelditch, M., Jr. 1971. "Intelligible Comparisons," in Comparative Methods in Sociology, edited by Ivan Vallier. Berkeley: University of California Press.
- Zimmer, T. 1976. "Sexism in Higher Education." Pacific Sociological Review 18 (January): 55-67.

FOOTNOTES

1. For a critical assessment of group competition theories and other attempts to explain the origins of national educational systems, see the discussion of these issues in Ramirez and Meyer (1980). See also Y. Cohen (1975, 1970).
2. Through this paper the words tertiary and higher education will be used interchangeably. The words paid labor force, labor force, and work force will also be used interchangeably. The term "relative levels" refers to the number of women relative to the total number of persons in either the educational system or the labor force. The term will be used interchangeably with the phrase "the female share of".
3. The logic of panel regression analysis as applied to cross-national research is discussed in Chase-Dunn (1975). Robinson (1977) has convincingly argued that this data analysis technique is compatible with a theoretical interest in examining world system processes. For a concise discussion of the relevant issues in determining the appropriate unit of analysis in a comparative study, see Zelditch (1971).

4. A very similar worldwide trend is observed when we focus on all cases for any one time period instead of a constant panel of countries. The average female tertiary enrollment ratio was 25.5% (N=77) in 1955 and increased to 31.5% (N=115) by 1975. The regional trends calculated with a varying number of cases across time periods are also very similar to those reported in Table 1.

5. We chose to examine the female share of the administrative and managerial strata instead of the professional strata because the latter often represents elite statuses for men (e.g., doctors) while representing quasi-elite semi-professional statuses for women (e.g., nurses). Moreover, the cross-national average female share of the professional strata (forty-one percent) is greater than the cross-national average female share of the labor force as a whole (twenty-seven percent). The cross-national average female share of the administrative and managerial strata is ten percent. If women have less access to the more prestigious occupational strata, it makes better sense to consider their participation in the

administrative and managerial (rather than the professional) strata as indicative of their participation in the more prestigious occupational strata.

6. Tests of statistical significance are employed in this paper merely as guidelines for evaluating the results. Of greater importance to us is the extent to which an indicator shows consistent effects and the degree to which different indicators of the same conceptual domain behave in a similar fashion.
7. The inclusion of the Cutright variable in equations one and four leads to the exclusion of Communist countries in these analyses. Since Communist countries constitute a high proportion of one-party systems, their exclusion reduces the amount of variation associated with the party system variable and makes it difficult to interpret these coefficients. Communist countries are included in equations seven and ten; note, however, that in these equations one-party systems are not much more likely than two- or multi-party systems to expand the relative level of female

tertiary enrollments. Moreover, in unpublished analyses examining the effects of a Communist/non-Communist dummy variable, we find that Communist countries are not much more likely than non-Communist ones to expand the female share of higher education.

8. The word missionaries is placed within quotation marks to acknowledge that the term will be used to connote more than the conventional religious meaning associated with it.
9. It is interesting to note that although Western capital permeated China earlier and more extensively than Japan, a more Western-like educational system was first adopted in Japan rather than in China (Collins 1977). For example, compulsory mass schooling was initiated in Japan in 1872 but did not become a part of Chinese educational ideology until 1923 (World Survey of Education Handbook 1955).